

Chapter

**8**

# **ESTIMATE OF DEVELOPMENT COSTS**

## ESTIMATE OF DEVELOPMENT COSTS

*for the Airport Master Plan  
at Grand Canyon West Airport*

### 8.0 CAPITAL IMPROVEMENT PLAN (CIP)

Future development of the Grand Canyon West Airport is proposed to accommodate aviation demand for the next five years. During this period a Site Selection Study has been proposed to identify an alternate site for long term airport development. The following table assumes that the FAA will not participate in the funding of improvements to the existing airport, as discussed in Section 6.6. The proposed Site Selection Study, Environmental Assessment/Impact Statement, and construction of a new facility would most likely be funded by a 91.06 percent FAA grant for eligible projects in the State of Arizona. Local funding must provide the remaining 8.94 percent of the total cost. The State of Arizona does not currently participate in the funding of airport project on Indian Reservations. Estimated costs for the proposed projects are listed in Table VIII-1.

TABLE VIII-1  
CAPITAL IMPROVEMENT PLAN

DESCRIPTION	ESTIMATED COST
Grading & Drainage. (Runway and Safety Areas)	\$100,000
Pave existing runway 75' x 5,200' and apron @ 12,500 lb. SWG. Install tiedowns and mark runway and apron.	\$880,000
Construct two holding bays. (One at each runway end)	\$60,000
Relocate access road/Buck and Doe Road. (1,000 L.F.)	\$230,000
Install wind socks. (2)	\$5,000
<b>TOTAL</b>	<b>\$1,275,000</b>

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## 8.1 PAVEMENT MAINTENANCE PLAN

Periodic maintenance is necessary to prolong the useful life of the airport pavements. The affects of weather damage, oxidation, and aircraft passes cause the pavement to deteriorate. The accumulation of moisture in the pavement causes heaving and cracking and is one of the greatest causes of pavement distress. The sun's ultraviolet rays oxidize and break down the asphalt binder in the pavement mix. This accelerates ravelling and erosion and can reduce asphalt thickness.

The appropriate pavement maintenance will minimize the affects of weather damage and oxidation. Crack sealing is accomplished to keep moisture from accumulating inside and underneath the pavement and should be accomplished at least every five years, and prior to fog sealing or overlaying the pavements. Fog seals, slurry seals, and coal tar emulsion (fuel resistant) seals are spread over the entire paved area to replenish the binder lost through oxidation and to seal, rejuvenate, and waterproof the pavement. Slurry seals also include an aggregate to increase the friction coefficient of the pavement. Asphalt overlays are accomplished near the end of the useful life of the pavement. A layer of new asphalt is placed over the existing pavement to renew the life of the pavement and to recover lost strength due to deterioration. Unless specially designed, the overlay is not intended to increase the weight bearing capacity of the pavement. Overlays may be supplemented with a porous friction course or grooving to increase friction and minimize hydroplaning. Remarketing of the pavement is required following a fog seal or overlay.

The theoretical pavement maintenance cycle time frames are listed below. Actual pavement deterioration will be affected by use of the airport and weather exposure. Maintenance actions should be programmed as necessary through close monitoring and inspection of the pavements.

### Pavement Maintenance Cycle (Approximate Time Frame):

- Crack Seal Pavement (5 Years)
- Crack Seal and Fog Seal Pavement (10 Years)
- Overlay Pavement (15 Years)